

## Claims

1. Receiver device for optical data signals, in particular optical data signals  
5 in the Gb/s range, comprising an opto-electrical conversion unit, a frequency multiplicator unit for frequency-multiplying the converted electrical data signal, and a clock recovery unit,

wherein

10 the frequency multiplicator unit performs a frequency multiplication by a factor of n, with n being a natural number larger than 2.

2. Receiver device according to claim 1, wherein the receiver device  
15 comprises a frequency filter for the spectral power of the electrical data signal, wherein the frequency filter transmits around  $B/n$ , wherein B is the bit rate of the electrical data signal.
3. Receiver device according to claim 1, wherein n=4.

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4. Receiver device according to claim 1, wherein the optical data signals are Gb/s signals, in particular 10 Gb/s signals or 40 Gb/s signals.

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5. Receiver device according to claim 1, wherein the clock recovery unit comprises a phase locked loop circuit.

6. Receiver device according to claim 1, wherein the clock recovery unit comprises a filter clock recovery circuit.

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7. Data transmission system comprising an optical transmission link, in particular an optical fiber system, wherein the optical transmission link

has a significant dispersion, and a receiver device according to claim 1.

8. Computer software for generating a clock signal out of an electrical data signal, in particular out of an electrical signal in the Gb/s range, wherein  
5 the electrical data signal is subjected to a frequency multiplication by a factor of n, with n being a natural number larger than 2, in particular n=4.